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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/682,304	10/08/2003	Karl-Friedrich Kammhoff	HOE-783	7333

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EXAMINER
TRIEU, THERESA

ART UNIT	PAPER NUMBER
3748	

DATE MAILED: 09/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	**Application No.** 10/682,304	**Applicant(s)** KAMMHOFF ET AL.	
	Examiner Theresa Trieu	**Art Unit** 3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13,15-23,25-31* is/are rejected.

7)☒ Claim(s) *14 and 24* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date *02/12/04, 04/30/04*.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 112

1. Regarding claim 29, the word "means" is preceded by the word(s) "oil guide" in an attempt to use a "means" clause to recite a claim element as a means for performing a specified function. However, since no function is specified by the word(s) preceding "means," it is impossible to determine the equivalents of the element, as required by 35 U.S.C. 112, sixth paragraph. See *Ex parte Klumb*, 159 USPQ 694 (Bd. App. 1967).

Claim Objections

2. Claims 25, 26, 29 recite the limitation "first winding, second winding, eccentric drive". This language along with corresponding reference numerals should be incorporated into the specification and drawings.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-12, 16-22 and 25-35 are rejected under 35 U.S.C. 102(b) as being anticipated by Ikeda (Patent Number JP 10-274178).

Regarding claims 1 and 22, as shown in Fig. 1, Ikeda discloses a compressor for refrigerant, comprising:

an outer housing (1);

a scroll compressor arranged in the outer housing and having a first compressor member (3) arranged stationarily in the outer housing (1) and a second compressor member (4) movable relative to the first compressor member, said compressor members each having a base (not numbered; however, clearly seen in Fig. 1) and first and second scroll ribs (not numbered; however, clearly seen in Fig. 1), a drive unit for the second compressor member with an eccentric drive, a drive shaft (7), a drive motor (6) arranged in a motor housing and having drawn-in refrigerant flowing around it as well as a bearing unit for the drive shaft (7), said bearing unit comprising a first bearing member (5) connected to the outer housing;

the refrigerant flowing through an oil separator (see [0028] paragraph) after flowing around the drive motor (6) and prior to entering the scroll compressor, said oil separator being arranged in the outer housing (1) between this and the drive unit.

Regarding claims 2-12, Ikeda discloses the oil separator is arranged in a space located between the outer housing (1) and the drive unit in a direction transverse to the central axis; the space (not numbered ;however, clearly seen in Fig. 1) between the outer housing and the drive unit extending essentially over the entire extension of the drive unit in a direction parallel to the central axis; the space surrounding the drive unit; oil being separated by the oil separator in the space moves in the direction of the oil sump (8) and refrigerant flows in the direction of an intake chamber (11) of the scroll compressor; refrigerant entering the space after cooling the drive motor (6); the oil separator being arranged at least in sections on an outer side of the first bearing member (5); the oil separator being arranged so as to surround the first bearing member (5)/motor housing at least in sections; the oil separator being arranged at least in sections on an outer side of the motor housing; the oil separator using part of the space located between the outer housing (1) and the drive unit; the space between the outer housing (1) and the drive unit used by the oil separator is an annular space.

Regarding claims 16-21, Ikeda discloses the refrigerant flows in the oil separator along an inner wall surface of the outer housing (1); oil settling in the oil separator flowing into an oil sump (8) on a path extending outside the motor housing; the oil sump being arranged in the outer housing (1) on a side of the drive motor (6) located opposite the first bearing member (5); the refrigerant flowing around an outer side of the first bearing member (5) on its way from the oil separator to the intake chamber (11) of the scroll compressor; the oil separator being located on a side of the supporting arms (not numbered; however, clearly seen in Figs 1 and 2) facing the oil sump (8), said supporting arms connecting the first bearing member (5) to the outer housing (1). the refrigerant passing between the supporting arms in the direction of an intake chamber (11) of the scroll compressor after flowing through the oil separator.

Regarding claims 25-35, Ikeda further discloses the refrigerant enters the motor housing at the level of a first winding head when seen in the direction of the central axis; when seen in the direction of the central axis, the refrigerant flowing through the drive motor (6) from the first winding head in the direction of a second winding head; the refrigerant exiting from the motor housing at the level of the second winding head; oil separating in the motor housing exiting from the motor housing through oil discharge openings in a base of the motor housing in order to reach the oil sump (9); the first bearing member (5) having an oil guide (not numbered; however, clearly seen in Fig. 1) for oil used for the lubrication of the eccentric drive; the oil guide opening into an interior space of the motor housing; considerable portions of the oil being conveyed to the oil separator by the refrigerant flowing through the interior space of the motor housing; the oil guide opening into the space; the drive shaft (7) having a bore for lubricating oil; a lubrication of a rotary bearing for the drive shaft (7) in the first bearing member (5) being brought about via the bore for lubricating oil; a lubrication of the eccentric drive being brought about via the bore for lubricating oil.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 13, 15 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda '178 in view of Kimata et al. (Kimata) (Publication Number JP 2000-345978).

Ikeda disclose the invention as recited above; however, Ikeda fails to disclose a direction of the flowing refrigerant.

Regarding claims 13, 15 an 23, Kimata teaches that it is conventional in the art to utilize the refrigerant experiencing a deflection (31, 32) in an azimuthal direction in relation to the central axis when entering the oil separator; the refrigerant being guided in the oil separator (30) essentially on an azimuthal path around the central axis; the refrigerant entering the motor housing (5) experiencing a deflection in at least one azimuthal direction. It would have been obvious to one having ordinary skill in the art at the time the invention was made, to have utilized the direction of the flowing refrigerant, as taught by Kimata in the Ikeda apparatus, since the use of thereof would have reduced the oil circulation rate and improved the performance and the efficiency of the scroll compressor device.

Allowable Subject Matter

5. Claims 14 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Prior Art

The IDS (PTO-1449) filed on February 12, 2004 and March 30, 2004 has been considered. An initialized copy is attached hereto.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of three patents.

Inaba et al. (Patent Number 4,592,703) disclose a scroll compressor having a refrigerant flow through the demister after flowing around the motor and prior to entering the scroll compressor.

Nakamura et al. (Patent Number 4,496,293) disclose a compressor of the scroll type.

Inaba et al. (Publication Number JP 59-176494) disclose a scroll compressor having a suction gas introduced into the motor chamber then flowing into the demister and being sucked into the suction chamber.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Theresa Trieu whose telephone number is 703-308-6434. The examiner can normally be reached on Monday-Friday 8:30am- 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E Denion can be reached on 703-308-2623. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TT

Theresa Trieu
Patent Examiner
Art Unit 3748